



A-688A.ST25
SEQUENCE LISTING

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<120> ADHESION ANTAGONISTS (as amended)

<130> A-688A

<140> US 09/840,277

<141> 2001-04-23

<150> US 60/198,919

<151> 2000-04-21

<150> US 60/201,394

<151> 2000-05-03

<160> 137

<170> PatentIn version 3.2

<210> 1

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<212> DNA

<213> Homo sapiens

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<222> (1)..(684)

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1				5					10					15		

ggg	gga	ccg	tca	gtc	ttc	ctc	ttc	ccc	cca	aaa	ccc	aag	gac	acc	ctc	96
Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	
			20					25					30			

atg	atc	tcc	cgg	acc	cct	gag	gtc	aca	tgc	gtg	gtg	gtg	gac	gtg	agc	144
Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	
		35					40					45				

cac	gaa	gac	cct	gag	gtc	aag	ttc	aac	tgg	tac	gtg	gac	ggc	gtg	gag	192
His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	
	50					55					60					

gtg	cat	aat	gcc	aag	aca	aag	ccg	cgg	gag	gag	cag	tac	aac	agc	acg	240
Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	
65					70				75						80	

tac	cgt	gtg	gtc	agc	gtc	ctc	acc	gtc	ctg	cac	cag	gac	tgg	ctg	aat	288
Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	
				85					90					95		

ggc	aag	gag	tac	aag	tgc	aag	gtc	tcc	aac	aaa	gcc	ctc	cca	gcc	ccc	336
Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	
			100					105					110			

atc	gag	aaa	acc	atc	tcc	aaa	gcc	aaa	ggg	cag	ccc	cga	gaa	cca	cag	384
Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	
		115					120					125				

gtg	tac	acc	ctg	ccc	cca	tcc	cgg	gat	gag	ctg	acc	aag	aac	cag	gtc	432
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Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	
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agc	ctg	acc	tgc	ctg	gtc	aaa	ggc	ttc	tat	ccc	agc	gac	atc	gcc	gtg	480
Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	
145					150					155					160	
gag	tgg	gag	agc	aat	ggg	cag	ccg	gag	aac	aac	tac	aag	acc	acg	cct	528
Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	
				165					170					175		
ccc	gtg	ctg	gac	tcc	gac	ggc	tcc	ttc	ttc	ctc	tac	agc	aag	ctc	acc	576
Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	
			180					185					190			
gtg	gac	aag	agc	agg	tgg	cag	cag	ggg	aac	gtc	ttc	tca	tgc	tcc	gtg	624
Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	
		195					200					205				
atg	cat	gag	gct	ctg	cac	aac	cac	tac	acg	cag	aag	agc	ctc	tcc	ctg	672
Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	
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Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	
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His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	
	50					55					60					
Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	
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Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	
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Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	
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Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	
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Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	

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140

130

135

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
145 150 155 160

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
165 170 175

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
180 185 190

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
195 200 205

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
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Ser Pro Gly Lys
225

<210> 3
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Gly Gly Gly Lys Gly Gly Gly Gly
1 5

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Gly Gly Gly Asn Gly Ser Gly Gly
1 5

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Gly Gly Gly Cys Gly Gly Gly Gly
1 5

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 <223> Echistatin peptide

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Glu Cys Glu Ser Gly Pro Cys Cys Arg Asn Cys Lys Phe Leu Lys Glu
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Gly Thr Ile Cys Lys Arg Ala Arg Gly Asp Asp Met Asp Asp Tyr Cys
 20 25 30

Asn Gly Lys Thr Cys Asp Cys Pro Arg Asn Pro His Lys Gly Pro Ala
 35 40 45

Thr

<210> 9
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 <223> RGD, NGR derivative peptide

<220>
 <221> misc_feature
 <222> (2, 5 and)..(7)
 <223> Xaa is any amino acid

<400> 9

Arg Xaa Glu Thr Xaa Trp Xaa
 1 5

<210> 10

<400> 10
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<210> 11

<211> 9

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<223> RGD, NGR derivative peptide

<220>

<221> misc_feature

<222> (2, 3, 7 and)..(8)

<223> Xaa is any amino acid

<400> 11

Cys Xaa Xaa Arg Leu Asp Xaa Xaa Cys
 1 5

<210> 12

<400> 12
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<210> 13

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<223> RGD, NGR derivative peptide

<220>

<221> misc_feature

<222> (1, 2, 3, 7, 8 and)..(9)

<223> Xaa is any amino acid with Xaa at 1, 3, 7 and 9 capable of forming a bridge.

<400> 13

Xaa Xaa Xaa Arg Gly Asp Xaa Xaa Xaa
 1 5

<210> 14

<211> 17

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<220>

<223> RGD, NGR derivative peptide

<220>

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<221> misc_feature
 <222> (2, 3, 4, 5, 6, 12, 13, 14, 15 and)..(16)
 <223> At positions 2, 3, 4, 5, 6, 12, 13, 14, 15 and 16, Xaa is any amino acid or may be absent.

<400> 14

Cys Xaa Xaa Xaa Xaa Xaa Cys Arg Gly Asp Cys Xaa Xaa Xaa Xaa Xaa
 1 5 10 15

Cys

<210> 15
 <211> 8
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<220>
 <223> RGD, NGR derivative peptide

<220>
 <221> misc_feature
 <222> (1 and)..(8)
 <223> Xaa is an independently selected amino acid.

<220>
 <221> misc_feature
 <222> (2 and)..(7)
 <223> Xaa equals 0 to 4 amino acids, each which is independently selected.

<220>
 <221> misc_feature
 <222> (4)..(4)
 <223> Xaa is selected from the group consisting of glycine and leucine.

<220>
 <221> misc_feature
 <222> (5)..(5)
 <223> Xaa is selected from the group consisting of tryptophan and leucine.

<400> 15

Xaa Xaa Asp Asp Xaa Xaa Xaa Xaa
 1 5

<210> 16
 <211> 10
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 <213> Artificial Sequence

<220>
 <223> RGD, NGR derivative peptide

<220>
 <221> misc_feature
 <222> (1 and)..(10)
 <223> Xaa is any amino acid.

<220>
 <221> misc_feature

<222> (2 and)..(9)
 <223> Xaa equals 0 to 3 amino acids.

<220>
 <221> misc_feature
 <222> (3)..(3)
 <223> Xaa is selected from the group consisting of tryptophan and proline.

<220>
 <221> misc_feature
 <222> (6)..(6)
 <223> Xaa is selected from the group consisting of glycine and leucine.

<220>
 <221> misc_feature
 <222> (7)..(7)
 <223> Xaa is selected from the group consisting of tryptophan and leucine.

<220>
 <221> misc_feature
 <222> (8)..(8)
 <223> Xaa is selected from the group consisting of leucine, tryptophan, and methionine.

<400> 16
 Xaa Xaa Xaa Asp Asp Xaa Xaa Xaa Xaa Xaa
 1 5 10

<210> 17
 <211> 19
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<220>
 <223> Vinculin binding/selectin antagonist peptide

<220>
 <221> misc_feature
 <222> (3, 5, 6, 13)..(15)
 <223> Xaa is any naturally occurring amino acid residue.

<400> 17
 Arg Lys Xaa Asn Xaa Xaa Trp Thr Trp Val Gly Thr Xaa Lys Xaa Leu
 1 5 10 15
 Thr Glu Glu

<210> 18
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<220>
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 <222> (2, 3, 4, 7)..(15)

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<223> Xaa is any naturally occurring amino acid residue

<400> 18

Cys Xaa Xaa Xaa Tyr Thr Xaa Leu Val Ala Ile Gln Asn Lys Xaa Glu
1 5 10 15

<210> 19

<211> 19

<212> PRT

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<223> vinculin binding/selectin antagonist peptide

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<221> misc_feature

<222> (3, 4, 5, 6, 8, 13, 15)..(18)

<223> Xaa is any naturally occurring amino acid residue.

<400> 19

Arg Lys Xaa Xaa Xaa Xaa Trp Xaa Trp Val Gly Thr Xaa Lys Xaa Leu
1 5 10 15

Thr Xaa Glu

<210> 20

<211> 16

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<223> vinculin binding/selectin antagonist peptide

<220>

<221> misc_feature

<222> (2, 5, 6, 7, 12, 13)..(14)

<223> Xaa is any naturally occurring amino acid residue.

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Ala Xaa Asn Trp Xaa Xaa Xaa Glu Pro Asn Asn Xaa Xaa Xaa Glu Asp
1 5 10 15

<210> 21

<211> 13

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<223> vinculin binding/selectin antagonist peptide

<220>

<221> misc_feature

<222> (1, 3, 6, 9, 12)..(13)

<223> Xaa is any naturally occurring amino acid residue.

<400> 21

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Xaa Lys Xaa Lys Thr Xaa Glu Ala Xaa Asn Trp Xaa Xaa
1 5 10

<210> 22
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<220>
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<400> 22

Cys Leu Cys Arg Gly Asp Cys Ile Cys
1 5

<210> 23
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<400> 23

Cys Trp Asp Asp Gly Trp Leu Cys
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Cys Trp Asp Asp Leu Trp Trp Leu Cys
1 5

<210> 25
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<400> 25

Cys Trp Asp Asp Gly Leu Met Cys
1 5

<210> 26
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Cys Trp Asp Asp Gly Trp Met Cys
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<223> Integrin antagonist peptide

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Cys Ser Trp Asp Asp Gly Trp Leu Cys
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Cys Pro Asp Asp Leu Trp Trp Leu Cys
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<223> Integrin antagonist peptide

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Asn Gly Arg
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<223> Integrin antagonist peptide

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Gly Ser Leu
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<223> Integrin antagonist peptide

<400> 31

Arg Gly Asp

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<210> 32

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Cys Asn Gly Arg Cys Val Ser Gly Cys Ala Gly Arg Cys
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Cys Leu Ser Gly Ser Leu Ser Cys
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Gly Ser Leu

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<400> 43

Arg Thr Asp Leu Asp Ser Leu Arg Thr
1 5

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<400> 44

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1 5

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Gly Asp Leu Asp Leu Leu Lys Leu Arg Leu Thr Leu
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<400> 46

Gly Asp Leu His Ser Leu Arg Gln Leu Leu Ser Arg
 1 5 10

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Arg Asp Asp Leu His Met Leu Arg Leu Gln Leu Trp
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Ser Ser Asp Leu His Ala Leu Lys Lys Arg Tyr Gly
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Arg Gly Asp Leu Lys Gln Leu Ser Glu Leu Thr Trp
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<222> (2)..(3)

<223> Xaa is any amino acid residue

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Ser Thr Gly Gly Phe Asp Asp Val Tyr Asp Trp Ala Arg Gly Val Ser
1 5 10 15

Ser Ala Leu Thr Thr Thr Leu Val Ala Thr Arg
20 25

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Ser Thr Gly Gly Phe Asp Asp Val Tyr Asp Trp Ala Arg Arg Val Ser
1 5 10 15

Ser Ala Leu Thr Thr Thr Leu Val Ala Thr Arg
20 25

<210> 53

<211> 30

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<213> Artificial Sequence

<220>

<223> Integrin antagonist peptide

<400> 53

Ser Arg Gly Val Asn Phe Ser Glu Trp Leu Tyr Asp Met Ser Ala Ala
1 5 10 15

Met Lys Glu Ala Ser Asn Val Phe Pro Ser Arg Arg Ser Arg
20 25 30

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<220>
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<400> 54

Ser Ser Gln Asn Trp Asp Met Glu Ala Gly Val Glu Asp Leu Thr Ala
 1 5 10 15

Ala Met Leu Gly Leu Leu Ser Thr Ile His Ser Ser Ser Arg
 20 25 30

<210> 55
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<400> 55

Ser Ser Pro Ser Leu Tyr Thr Gln Phe Leu Val Asn Tyr Glu Ser Ala
 1 5 10 15

Ala Thr Arg Ile Gln Asp Leu Leu Ile Ala Ser Arg Pro Ser Arg
 20 25 30

<210> 56
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<400> 56

Ser Ser Thr Gly Trp Val Asp Leu Leu Gly Ala Leu Gln Arg Ala Ala
 1 5 10 15

Asp Ala Thr Arg Thr Ser Ile Pro Pro Ser Leu Gln Asn Ser Arg
 20 25 30

<210> 57
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<400> 57

Asp Val Tyr Thr Lys Lys Glu Leu Ile Glu Cys Ala Arg Arg Val Ser
 1 5 10 15

Glu Lys

<210> 58
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 <222> (5)..(5)
 <223> Xaa is any amino acid residue

<400> 58

Arg Gly Asp Gly Xaa
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<210> 59
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 <222> (6)..(6)
 <223> Xaa is any amino acid residue

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Cys Ala Arg Arg Leu Asp Ala Pro Cys
 1 5

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Cys Pro Ser Arg Leu Asp Ser Pro Cys
1 5

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Cys Asp Cys Arg Gly Asp Cys Phe Cys
1 5

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Cys Asp Cys Arg Gly Asp Cys Leu Cys
1 5

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<220>
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Arg Gly Asp Leu Ala Ala Leu Ser Ala Pro Pro Val
1 5 10

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Asp Ile Thr Trp Asp Gln Leu Trp Asp Leu Met Lys
1 5 10

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<400> 66

Asp Ile Thr Trp Asp Glu Leu Trp Lys Ile Met Asn
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<223> selectin antagonist peptide

<400> 67

Asp Tyr Thr Trp Phe Glu Leu Trp Asp Met Met Gln
1 5 10

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<223> selectin antagonist peptide

<400> 68

Gln Ile Thr Trp Ala Gln Leu Trp Asn Met Met Lys
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<220>

<223> Selectin antagonist peptide

<400> 69

Asp Met Thr Trp His Asp Leu Trp Thr Leu Met Ser
1 5 10

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<223> selectin antagonist peptide

<400> 70

Asp Tyr Ser Trp His Asp Leu Trp Glu Met Met Ser
1 5 10

<210> 71

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> selectin antagonist peptide

<400> 71

Glu Ile Thr Trp Asp Gln Leu Trp Glu Val Met Asn
1 5 10

<210> 72

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> selectin antagonist peptide

<400> 72

His Val Ser Trp Glu Gln Leu Trp Asp Ile Met Asn
1 5 10

<210> 73

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> selectin antagonist peptide

<400> 73

His Ile Thr Trp Asp Gln Leu Trp Arg Ile Met Thr
1 5 10

<210> 74

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> selectin antagonist peptide

<400> 74

Arg Asn Met Ser Trp Leu Glu Leu Trp Glu His Met Lys
1 5 10

<210> 75

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> selectin antagonist peptide

<400> 75

Ala Glu Trp Thr Trp Asp Gln Leu Trp His Val Met Asn Pro Ala Glu
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Ser Gln

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<210> 76
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Selectin antagonist peptide

<400> 76

His Arg Ala Glu Trp Leu Ala Leu Trp Glu Gln Met Ser Pro
 1 5 10

<210> 77
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Selectin antagonist peptide

<400> 77

Lys Lys Glu Asp Trp Leu Ala Leu Trp Arg Ile Met Ser Val
 1 5 10

<210> 78
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> selectin antagonist peptide

<400> 78

Ile Thr Trp Asp Gln Leu Trp Asp Leu Met Lys
 1 5 10

<210> 79
 <211> 12
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 <213> Artificial Sequence

<220>
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<400> 79

Asp Ile Thr Trp Asp Gln Leu Trp Asp Leu Met Lys
 1 5 10

<210> 80
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Selectin antagonist peptide

<400> 80

Asp Ile Thr Trp Asp Gln Leu Trp Asp Leu Met Lys
 1 5 10

<210> 81
 <211> 12
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<220>
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<400> 81

Asp Ile Thr Trp Asp Gln Leu Trp Asp Leu Met Lys
 1 5 10

<210> 82
 <211> 16
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<220>
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<400> 82

Cys Gln Asn Arg Tyr Thr Asp Leu Val Ala Ile Gln Asn Lys Asn Glu
 1 5 10 15

<210> 83
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 83

Ala Glu Asn Trp Ala Asp Asn Glu Pro Asn Asn Lys Arg Asn Asn Glu
 1 5 10 15

Asp

<210> 84
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> selectin antagonist peptide

<400> 84

Arg Lys Asn Asn Lys Thr Trp Thr Trp Val Gly Thr Lys Lys Ala Leu
 1 5 10 15

Thr Asn Glu

<210> 85
 <211> 13

<212> PRT
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<220>
 <223> selectin antagonist peptide

<400> 85

Lys Lys Ala Leu Thr Asn Glu Ala Glu Asn Trp Ala Asp
 1 5 10

<210> 86
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> selectin antagonist peptide

<220>
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 <222> (3 and)..(15)
 <223> Xaa is any amino acid residue

<400> 86

Cys Gln Xaa Arg Tyr Thr Asp Leu Val Ala Ile Gln Asn Lys Xaa Glu
 1 5 10 15

<210> 87
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
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 <222> (13 and)..(15)
 <223> Xaa is any amino acid residue

<400> 87

Ala Glu Asn Trp Ala Asp Gly Glu Pro Asn Asn Lys Xaa Asn Xaa Glu
 1 5 10 15

Asp

<210> 88
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> vinculin binding peptide

<400> 88

Ser Ser Gln Asn Trp Asp Met Glu Ala Gly Val Glu Asp Leu Thr Ala
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Ala Met Leu Gly Leu Leu Ser Thr Ile His Ser Ser Ser Arg
20 25 30

<210> 89
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> vinculin binding peptide

<400> 89

Ser Ser Pro Ser Leu Tyr Thr Gln Phe Leu Val Asn Tyr Glu Ser Ala
1 5 10 15

Ala Thr Arg Ile Gln Asp Leu Leu Ile Ala Ser Arg Pro Ser Arg
20 25 30

<210> 90
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> vinculin binding peptide

<400> 90

Ser Ser Thr Gly Trp Val Asp Leu Leu Gly Ala Leu Gln Arg Ala Ala
1 5 10 15

Asp Ala Thr Arg Thr Ser Ile Pro Pro Ser Leu Gln Asn Ser Arg
20 25 30

<210> 91
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> vinculin binding peptide

<400> 91

Asp Val Tyr Thr Lys Lys Glu Leu Ile Glu Cys Ala Arg Arg Val Ser
1 5 10 15

Glu Lys

<210> 92
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> vinculin binding peptide

<400> 92

Ser Thr Gly Gly Phe Asp Asp Val Tyr Asp Trp Ala Arg Gly Val Ser
1 5 10 15

Ser Ala Leu Thr Thr Thr Leu Val Ala Thr Arg
20 25

<210> 93

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> vinculin binding peptide

<400> 93

Ser Thr Gly Gly Phe Asp Asp Val Tyr Asp Trp Ala Arg Arg Val Ser
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Ser Ala Leu Thr Thr Thr Leu Val Ala Thr Arg
20 25

<210> 94

<211> 30

<212> PRT

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<220>

<223> vinculin binding peptide

<400> 94

Ser Arg Gly Val Asn Phe Ser Glu Trp Leu Tyr Asp Met Ser Ala Ala
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Met Lys Glu Ala Ser Asn Val Phe Pro Ser Arg Arg Ser Arg
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<210> 95

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Laminin related peptide

<400> 95

Arg Glu Asp Val Glu Ile Leu Asp Val Tyr Ile Gly Ser Arg Pro Asp
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Ser Gly Arg

<210> 96

<211> 19

<212> PRT

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<220>

<223> Laminin related peptide

<400> 96

Tyr Ile Gly Ser Arg Arg Glu Asp Val Glu Ile Leu Asp Val Pro Asp
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Ser Gly Arg

<210> 97

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Used to form echistatin template for PCR

<400> 97

ggggggcata tggaatgtga atctggtcca tgctgcagaa actg 44

<210> 98

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Used to form echistatin template for PCR

<400> 98

taagttcttg aaggaaggta ccatctgtaa gagagctaga ggtg 44

<210> 99

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Used to form echistatin template for PCR

<400> 99

acgacatgga cgactactgt aacggtaaga cctgtgactg cccg 44

<210> 100

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> Used to form echistatin template for PCR

<400> 100

agaaaccac acaagggtcc agctacttaa tggatccgcg gccgcccagc t 51

<210> 101

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Used to form echistatin template for PCR
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 ttcaagaact tacagtttct gcag 24

 <210> 102
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 cgtccatgctc gtcacctcta gctc 24

 <210> 103
 <211> 24
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 <400> 103
 gtgtgggttt ctcgggcagt caca 24

 <210> 104
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 <212> DNA
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 <400> 104
 ccgggtaaag gtggaggtgg tggatgaatgt gaatctgggc catgctgc 48

 <210> 105
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 <212> DNA
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 <400> 105
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 <210> 106
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR primer
 <400> 106
 aacataagta cctgtaggat cg 22

 <210> 107
 <211> 49

<212> DNA
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<220>
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<400> 107
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<210> 108
 <211> 859
 <212> DNA
 <213> Artificial Sequence

<220>
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 <223> NdeI site

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 <221> CDS
 <222> (4)..(849)

<220>
 <221> misc_feature
 <222> (854)..(854)
 <223> BamHI site

<400> 108
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 Met Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
 1 5 10 15

ctg ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc 96
 Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 20 25 30

ctc atg atc tcc cgg acc cct gag gtc aca tgc gtg gtg gtg gac gtg 144
 Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 35 40 45

agc cac gaa gac cct gag gtc aag ttc aac tgg tac gtg gac ggc gtg 192
 Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 50 55 60

gag gtg cat aat gcc aag aca aag ccg cgg gag gag cag tac aac agc 240
 Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 65 70 75

acg tac cgt gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg 288
 Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 80 85 90 95

aat ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc 336
 Asn Gly Lys Glu Tyr 100 Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 105 110

ccc atc gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa cca 384
 Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 115 120 125

cag gtg tac acc ctg ccc cca tcc cgg gat gag ctg acc aag aac cag 432
 Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln
 28

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130					135					140						
gtc	agc	ctg	acc	tgc	ctg	gtc	aaa	ggc	ttc	tat	ccc	agc	gac	atc	gcc	480
Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	
	145					150					155					
gtg	gag	tgg	gag	agc	aat	ggg	cag	ccg	gag	aac	aac	tac	aag	acc	acg	528
Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	
	160				165					170					175	
cct	ccc	gtg	ctg	gac	tcc	gac	ggc	tcc	ttc	ttc	ctc	tac	agc	aag	ctc	576
Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	
				180					185					190		
acc	gtg	gac	aag	agc	agg	tgg	cag	cag	ggg	aac	gtc	ttc	tca	tgc	tcc	624
Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	
			195					200					205			
gtg	atg	cat	gag	gct	ctg	cac	aac	cac	tac	acg	cag	aag	agc	ctc	tcc	672
Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	
		210					215					220				
ctg	tct	ccg	ggg	aaa	ggg	gga	ggg	ggg	ggg	gaa	tgt	gaa	tct	ggg	cca	720
Leu	Ser	Pro	Gly	Lys	Gly	Gly	Gly	Gly	Gly	Glu	Cys	Glu	Ser	Gly	Pro	
	225				230						235					
tgc	tgc	aga	aac	tgt	aag	ttc	ttg	aag	gaa	ggg	acc	atc	tgt	aag	aga	768
Cys	Cys	Arg	Asn	Cys	Lys	Phe	Leu	Lys	Glu	Gly	Thr	Ile	Cys	Lys	Arg	
	240				245					250					255	
gct	aga	ggg	gac	gac	atg	gac	gac	tac	tgt	aac	ggg	aag	acc	tgt	gac	816
Ala	Arg	Gly	Asp	Asp	Met	Asp	Asp	Tyr	Cys	Asn	Gly	Lys	Thr	Cys	Asp	
				260					265					270		
tgc	ccg	aga	aac	cca	cac	aag	ggg	cca	gct	act	taatggatcc					859
Cys	Pro	Arg	Asn	Pro	His	Lys	Gly	Pro	Ala	Thr						
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<220>
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<400> 109

Met	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	
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Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	
			20					25					30			
Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	
		35					40					45				
His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	
	50					55					60					
Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	
65					70					75					80	

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Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
85 90

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
100 105 110

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
115 120 125

Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
130 135 140

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
145 150 155 160

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
165 170 175

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
180 185 190

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
195 200 205

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
210 215 220

Ser Pro Gly Lys Gly Gly Gly Gly Glu Cys Glu Ser Gly Pro Cys
225 230 235 240

Cys Arg Asn Cys Lys Phe Leu Lys Glu Gly Thr Ile Cys Lys Arg Ala
245 250 255

Arg Gly Asp Asp Met Asp Asp Tyr Cys Asn Gly Lys Thr Cys Asp Cys
260 265 270

Pro Arg Asn Pro His Lys Gly Pro Ala Thr
275 280

<210> 110
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<223> ClaI site

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ggcggtgata ctgagcacat 140

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<220>
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<222> (55)..(55)
<223> KpnI site

<400> 111
cgatttgatt ctagaaggag gaataacata tgggtaacgc gttggaattc ggtac 55

<210> 112
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<223> AatII sticky end

<220>
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<222> (1546)..(1546)
<223> SacII sticky end

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ctcctgagta ggacaaatcc gccgggagcg gatttgaacg ttgcgaagca acggcccggg 180
gggtggcggg caggacgccc gccataaact gccaggcatc aaattaagca gaaggccatc 240
ctgacggatg gcctttttgc gtttctacaa actcttttgt ttatttttct aaatacatc 300
aaatatggac gtcgtactta acttttaaag tatgggcaat caattgctcc tgttaaaatt 360
gcttttagaaa tactttggca gcggtttgtt gtattgagtt tcatttgcgc attgggttaa 420

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ttatttgcta	tatttatatt	tcgataatta	tcaactagag	aaggaacaat	taatgggatg	600
ttcatacacg	catgtaaaaa	taaactatct	atatagttgt	ctttctctga	atgtgcaaaa	660
ctaagcattc	cgaagccatt	attagcagta	tgaatagggg	aactaaaccc	agtgataaga	720
cctgatgatt	tcgcttcttt	aattacattt	ggagattttt	tatttacagc	attgttttca	780
aatatattcc	aattaatcgg	tgaatgattg	gagttagaat	aatctactat	aggatcatat	840
tttattaaat	tagcgtcatc	ataatattgc	ctccattttt	tagggtaatt	atccagaatt	900
gaaatatcag	atttaaccat	agaatgagga	taaatgatcg	cgagtaaata	atattcacia	960
tgtaccattt	tagtcatatc	agataagcat	tgattaatat	cattattgct	tctacaggct	1020
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ctgctgccac	cgctgagcaa	taactagcat	aacccttggg	ggcctctaaa	cggttcttga	1500
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gataatatat	gagcacaataa aagaaaccat taacacaaga gcagcttgag gacgcacgtc 180
gccttaaagc	aatttatgaa aaaaagaaaa atgaacttgg cttatcccag gaatctgtcg 240
cagacaagat	ggggatgggg cagtcaggcg ttggtgcttt atttaatggc atcaatgcat 300
taaatgctta	taacgccgca ttgcttacia aaattctcaa agttagcggt gaagaattta 360
gcccttcaat	cgccagagaa tctacgagat gtatgaagcg gttagtatgc agccgtcact 420
tagaagtgag	tatgagtacc ctgttttttc tcatgttcag gcagggatgt tctcacctaa 480
gcttagaacc	tttaccaaaag gtgatgcgga gagatgggta agcacaacca aaaaagccag 540
tgattctgca	ttctggcttg aggttgaagg taattccatg accgcaccaa caggctccaa 600

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gccaagcttt cctgacggaa tgtaattct cgttgaccct gagcaggctg ttgagccagg	660
tgattttctgc atagccagac ttgggggtga tgagtttacc ttcaagaaac tgatcaggga	720
tagcggctcag gtgttttttac aaccactaaa cccacagtac ccaatgatcc catgcaatga	780
gagttgttcc gttgtgggga aagttatcgc tagtcagtgg cctgaagaga cgtttggtg	840
atagactagt ggatccacta gtgtttctgc cc	872

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<220>
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agtatgccgg tgtctcttat cagaccgttt cccgcgtggt gaaccaggcc agccacgttt	180
ctgcgaaaac gcgggaaaaa gtcgaagcgg cgatggcgga gctgaattac attcccaacc	240
gcgtggcaca acaactggcg ggcaaacagt cgctcctgat tggcgttgcc acctccagtc	300
tggccctgca cgcgccgtcg caaattgtcg cggcgattaa atctcgcgcc gatcaactgg	360
gtgccagcgt ggtggtgtcg atggtagaac gaagcggcgt cgaagcctgt aaagcggcgg	420
tgcacaatct tctcgcgcaa cgcgtcagtg ggctgatcat taactatccg ctggatgacc	480
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ctgaccagac acccatcaac agtattattt tctcccatga agacggtacg cgactgggcg	600
tggagcatct ggtcgcattg ggtcaccagc aaatcgcgct gttagcgggc ccattaagtt	660
ctgtctcggc gcgtctgcgt ctggctggct ggcataaata tctcactcgc aatcaaattc	720
agccgatagc ggaacgggaa ggcgactgga gtgccatgtc cggttttcaa caaacatgc	780
aaatgctgaa tgagggcatc gttcccactg cgatgctggt tgccaacgat cagatggcgc	840
tgggcgcaat gcgcgccatt accgagtccg ggctgcgcgt tgggtgcggat atctcggtag	900
tgggatacga cgataccgaa gacagctcat gttatatccc gccgttaacc accatcaaac	960
aggattttcg cctgctgggg caaaccagcg tggaccgctt gctgcaactc tctcagggcc	1020
aggcggtgaa gggcaatcag ctgttgcccg tctcactggt gaaaagaaaa accaccctgg	1080
cgcccaatac gcaaaccgcc tctccccgcg cgttggccga ttcattaatg cagctggcac	1140
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<220>

<223> Laminin related peptide

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Met Tyr Ile Gly Ser Arg Gly Gly Gly Gly Gly
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<210> 116

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Laminin related peptide

<400> 116

Met Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg
1 5 10 15

<210> 117

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Laminin related peptide

<400> 117

Met Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg
1 5 10 15

Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg
20 25

<210> 118

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Laminin related peptide

<400> 118

Met Ile Pro Cys Asn Asn Lys Gly Ala His Ser Val Gly Leu Met Trp
1 5 10 15

Trp Met Leu Ala Arg Gly Gly Gly Gly Gly
20 25

<210> 119

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Laminin related peptide

<400> 119

A-688A.ST25

Met Tyr Ile Gly Ser Arg Arg Glu Asp Val Glu Ile Leu Asp Val Pro
 1 5 10 15

Asp Ser Gly Arg Gly Gly Gly Gly Gly
 20 25

<210> 120
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Laminin related peptide

<400> 120

Met Arg Gly Asp Arg Gly Asp Tyr Ile Gly Ser Arg Arg Gly Asp Gly
 1 5 10 15

Gly Gly Gly Gly
 20

<210> 121
 <211> 48
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Encoding Laminin related peptide, for PCR reaction to yield
 in-frame fusion to Fc

<400> 121
 gaataacata tgtacatcgg ttctcgtggt ggaggcggtg gggacaaa 48

<210> 122
 <211> 81
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Encoding Laminin related peptide, for PCR reaction to yield
 in-frame fusion to Fc

<400> 122
 gaataacata tgtacatcgg ttctcggttat attggctccc gctacattgg tagccgtgac 60
 aaaactcaca catgtccacc t 81

<210> 123
 <211> 111
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Encoding Laminin related peptide, for PCR reaction to yield
 in-frame fusion to Fc

<400> 123
 gaataacata tgtacatcgg ttctcggttat attggctccc gctacattgg tagccgttat 60
 atcggctctc gctatatattgg tagccgcgac aaaactcaca catgtccacc t 111

<210> 124
 <211> 93
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Encoding Laminin related peptide, for PCR reaction to yield
 in-frame fusion to Fc

 <400> 124
 gaataacata tgatcccgtg caacaacaaa ggtgctcact ctgttggtct gatgtggtgg 60
 atgctggctc gtggtggagg cggtggggac aaa 93

 <210> 125
 <211> 90
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Encoding Laminin related peptide, for PCR reaction to yield
 in-frame fusion to Fc

 <400> 125
 gaataacata tgtacatcgg ttctcgtcgt gaagacgttg aaatcctgga cgttccggac 60
 tctggtcgtg gtggaggcgg tggggacaaa 90

 <210> 126
 <211> 75
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Encoding Laminin related peptide, for PCR reaction to yield
 in-frame fusion to Fc

 <400> 126
 gaataacata tgcgtggtga ccgtggtgac tacatcggtt ctcgtcgtgg tgacggtgga 60
 ggcggtgggg acaaa 75

 <210> 127
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Encoding Laminin related peptide, for PCR reaction to yield
 in-frame fusion to Fc

 <400> 127
 gttattgctc agcgggtggca 20

 <210> 128
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Laminin related peptide

 <400> 128

A-688A.ST25

Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg
1 5 10

<210> 129
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Laminin related peptide

<400> 129

Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg
1 5 10 15

<210> 130
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Laminin related peptide

<400> 130

Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg Tyr
1 5 10 15

Ile Gly Ser Arg
20

<210> 131
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Laminin related peptide

<400> 131

Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg Tyr
1 5 10 15

Ile Gly Ser Arg Tyr Ile Gly Ser Arg
20 25

<210> 132
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Laminin related peptide

<400> 132

Ile Pro Cys Asn Asn Lys Gly Ala His Ser Val Gly Leu Met Trp Trp
1 5 10 15

Met Leu Ala Arg
20

<210> 133
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Laminin related peptide

<400> 133

Tyr Ile Gly Ser Arg Arg Glu Asp Val Glu Ile Leu Asp Val Pro Asp
1 5 10 15

Ser Gly Arg

<210> 134
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Laminin related peptide

<400> 134

Arg Gly Asp Arg Gly Asp Tyr Ile Gly Ser Arg Arg Gly Asp
1 5 10

<210> 135
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Laminin related peptide

<400> 135

Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg Tyr Ile Gly Ser Arg Tyr
1 5 10 15

Ile Gly Ser Arg Tyr Ile Gly Ser Arg
20 25

<210> 136
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Laminin related peptide

<400> 136

Arg Glu Asp Val Glu Ile Leu Asp Val Tyr Ile Gly Ser Arg Pro Asp
1 5 10 15

Ser Gly Arg

<210> 137
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Laminin related peptide

<400> 137

Tyr Ile Gly Ser Arg Arg Glu Asp Val Glu Ile Leu Asp Val Pro Asp
1 5 10 15

Ser Gly Arg